

## NEW ANTS FROM NEW ENGLAND.

BY WILLIAM MORTON WHEELER.

While preparing a list of the ants of New England for the Boston Society of Natural History, I have come upon the following new forms in the Museum of Comparative Zoology collection kindly sent me for study by Mr. Samuel Henshaw, in a collection of Massachusetts ants made by Mr. A. P. Morse, and among the material collected by myself at Woods Hole, Massachusetts and Colebrook, Connecticut:

1. *Myrmica rubra lacviodis* Nylander var. *bruesi* var. nov.

A number of workers, females and males taken by Mr. C. T. Brues and myself during 1900 and 1902 from a few large colonies nesting under stones at the edge of Fay's Woods, Woods Hole, Mass., agree very closely with European specimens of *M. lacviodis* from Russia, Austria, Germany, England and Scotland in my collection. The thorax of the workers of the American form is smoother, more shining and less regularly sculptured than in the European specimens, but I am unable to find any other differences of importance, and therefore establish this variety with some hesitation. I should be inclined to regard it as directly imported from Europe were it not that Forel has described two subspecies of *M. rubra* (*M. neolacviodis* and *M. chauplaini*) from New York and Canada respectively, both allied to the European *lacviodis* but with distinctive characters. The former has short antennæ, with the tips of the scapes extending only a short distance beyond the posterior corners of the head, the latter has very short epinotal spines. It thus appears that America possesses indigenous forms closely related to *lacviodis*, just as it has long been known to possess numerous varieties of the other boreal and subboreal subspecies of *M. rubra*.

2. *Lasius flavus nearcticus* subsp. nov.

*Lasius flavus* Emery, Zool. Jahrb. Abth. f. Syst. VII, 1893, p. 640,

*Lasius flavus* subsp. *myops* Emery, *ibid.* VIII, 1894, p. 334.

*Lasius myops* Wheeler, Bull. Am. Mus. Nat. Hist. XXI, 1905, p. 397.

This form, which Emery and myself have been regarding as *L. flavus myops* Forel, originally described from the Mediterranean Region, is certainly distinct, as I find by comparison of workers from Illinois, Massachusetts, Connecticut, New York and New Jersey with three typical workers kindly sent me by Professor Forel. According to this authority *myops* is distinguished from

the typical *flavus* of Europe "by its much smaller eyes, paler color, smaller and less variable stature, the absence of large reddish brown individuals, and finally by its predilection of warm, arid regions, where it lives under stones, unlike the true *flavus*, which prefers fat, humid meadows and makes large, compact mound nests." The worker of our American form of *flavus* undoubtedly resembles *myops* more closely than it does the typical *flavus* in the small eyes and paler color, but it is somewhat larger than *myops* (2.3-2.6 mm.), has the head and thorax smoother and more shining and the eyes proportionally even smaller. It differs, moreover, from *myops* in its habits, as it is found only in damp soil in shady woods, where it nests under dead leaves, stones or logs in colonies which are very small compared with those of the European *flavus*. These ethological differences are, in my estimation, a clearer indication of the independent subspecific rank of the American form than the morphological characters, although the discovery of the females and males of *myops* and their comparison with the corresponding phases of *nearcticus* may facilitate the separation of the two forms in our collections.

3. *Formica morsei* sp. nov.

*Worker.* (Plate IV, Fig. 1 a-c). Length 3.5-5.5 mm.

With the habitus of a small *F. rufa*. Mandibles 8-toothed. Palpi rather long. Head, excluding the mandibles, distinctly longer than broad; cheeks long, slightly flattened, converging in front, posterior border and angles convex and rounded. Clypeus convex, carinate, with entire, rounded anterior border. Antennæ slender; four basal joints of funiculus longer and more slender than the terminal joints. Thorax in profile with deep mesonotal constriction, the pro- and mesonotum together and the epinotum singly, rounded and convex. Petiole much narrower than the epinotum, both its anterior and posterior surfaces alike convex in profile; seen from behind the border is broadly rounded, in some specimens faintly emarginate in the middle, but not produced upward at this point as in many forms of the *rufa* group. The edge is rather blunt. Gaster large. Legs of the usual conformation.

Mandibles shining, sharply striatopunctate. Anterior portion of head, clypeus, frontal area, lower surface of thorax and gaster, shining; remainder of body subopaque, very finely shagreened; upper surface of gaster with a slightly oily luster.

Hairs white, obtuse, suberect and very sparse on the upper surface of the

head, thorax and gaster; nearly always completely absent on the lower surface of the head and petiolar border. Femora naked; tibiae with a row of tapering hairs on their flexor surfaces. Pubescence white, extremely short and sparse, so that it is almost invisible except on the upper surface of the gaster.

Reddish yellow; borders of mandibles black; anterior border of clypeus, vertex, upper surface of pro- and mesonotum, femora, tibiae, apical antennal joints, and gaster more or less infuscated; anal region yellow. In many specimens the upper surface of the head is more reddish than the remainder of the body but there is little difference in coloration between the smallest and largest workers.

Described from many workers taken by Mr. A. P. Morse from a flourishing colony at South Natick, Mass. This form is very closely related to some of the smaller American *Formicae* of the *rufa* group. Its exact status and affinities, however, cannot be determined without a knowledge of the female. It can hardly be a mere variety or subspecies of *F. rufa* proper, and it certainly has a very different habitus in coloration and pubescence from any of the allied species known to me.

#### 4. *Formica impeza* Wheeler.

Of this interesting species, originally described from workers only, taken in the Porcupine Mountains of Northern Michigan, Mr. A. P. Morse has recently discovered a colony at Sherborne, near East Holliston, Massachusetts. It was nesting in the upright trunk of a white pine, between bark and wood, about three feet from the ground and contained a few of the hitherto unknown females. These very closely resemble in their diminutive size (4.5 mm. in length) and coloration the females of the species which I have described as *F. microgyna*, *nevadensis* and *nepticula*, but the whole body, antennal scapes and legs are covered with long, suberect, obtuse hairs. They agree with the female of *microgyna* and differ from those of *nepticula* and *nevadensis* in having the gaster opaque and densely grayish pubescent.

The discovery of these diminutive females not only proves that I was not mistaken in regarding *impeza* as specifically distinct from *F. rufa*, but also indicates that, like *F. difficilis* and *microgyna*, it is a temporary parasite in depauperate colonies of some other species of *Formica*. As a matter of fact, the vial containing the *impeza* workers and females also contained a number of workers of *F. fusca* var. *subaenescens*, which Mr. Morse collected at the

